

Sub.  
B1  
Cont.  
A1

wherein the polymeric vehicle is effective for providing a coating binder film, wherein the polymer is selected from the group consisting of condensation polymers, addition polymer and hybrid polymers of condensation and addition polymers, wherein the polymer has an acid value of from about 4 to about 70 prior to neutralization, and a solubility of at least about 50 weight percent in a hydrophilic organic solvent which solvent has a solubility of at least 5 weight percent in water, and wherein the aqueous dispersion has less than about 2 weight percent organic solvent, at least about 30 weight percent solids, a viscosity of less than about 20 poise at a temperature of about 25°C., and a mean particle size of not more than about 300 nm.

Sub.  
B2  
A2

6. (Once amended) A formulated coating composition comprising an aqueous dispersion of a neutralized polymer in water, a co-solvent, and a cross-linking agent, which dispersion is substantially free of emulsifiers, wherein the cross-linking agent is selected from the group consisting of dimerized or trimerized polyisocyanate, triisocyanates, tetraisocyanates and mixtures thereof, the formulated coating composition being effective for providing a coating binder film, wherein the polymer is selected from the group consisting of condensation polymers, addition polymer and hybrid polymers of condensation and addition polymers, wherein the polymer has an acid value of from about 4 to about 70 prior to neutralization, and a solubility of at least about 50 weight percent in a hydrophilic organic solvent which solvent has a solubility of at least 5 weight percent in water, and wherein the aqueous dispersion has less than about 2 weight percent organic solvent, at least about 30 weight percent solids, a viscosity of less than about

Sub. B2  
A2 cont.  
20 poise at a temperature of about 25°C., and a mean particle size of not more than about 300 nm.

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Sub. B3  
23. (Once amended) A formulated coating composition comprising a first component and a second component, the first component comprising an aqueous dispersion of a neutralized polymer in water and a co-solvent, the second component comprising a cross-linking agent,

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which dispersion is substantially free of emulsifiers, wherein the cross-linking agent is selected from the group consisting of dimerized or trimerized polyisocyanate, triisocyanates, tetraisocyanates and mixtures thereof,

the first and second component when mixed being effective for providing a coating binder film, wherein the polymer is selected from the group consisting of condensation polymers, addition polymer and hybrid polymers of condensation and addition polymers, wherein the polymer has an acid value of from about 4 to about 70 prior to neutralization, and a solubility of at least about 50 weight percent in a hydrophilic organic solvent which solvent has a solubility of at least 5 weight percent in water, and wherein the aqueous dispersion has less than about 2 weight percent organic solvent, at least about 30 weight percent solids, a viscosity of less than about 20 poise at a temperature of about 25°C., and a mean particle size of not more than about 300 nm.

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Please add the following claims.

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28. A polymeric vehicle comprising an aqueous dispersion of a neutralized polymer in water, a co-solvent, and an isocyanate cross-linking agent comprising an isocyanate compound, which dispersion is substantially free of

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emulsifiers, wherein the polymeric vehicle is effective for providing a coating binder film, wherein the polymer is selected from the group consisting of condensation polymers, addition polymer and hybrid polymers of condensation and addition polymers, wherein the polymer has ionizable groups that include  $-SO_3H$  and the polymer has an acid value of from about 4 to about 70 prior to neutralization, and a solubility of at least about 50 weight percent in a hydrophilic organic solvent which solvent has a solubility of at least 5 weight percent in water, and wherein the aqueous dispersion has less than about 2 weight percent organic solvent, at least about 30 weight percent solids, a viscosity of less than about 20 poise at a temperature of about 25°C., and a mean particle size of not more than about 300 nm.

29. The polymeric vehicle of claim 28, wherein isocyanate compound is a polymeric isocyanate compound.

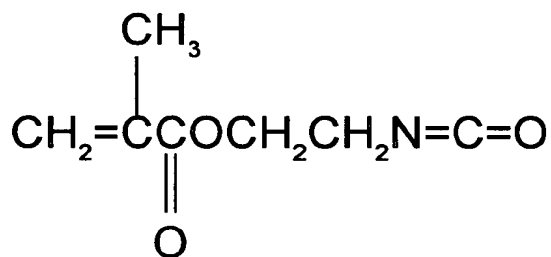
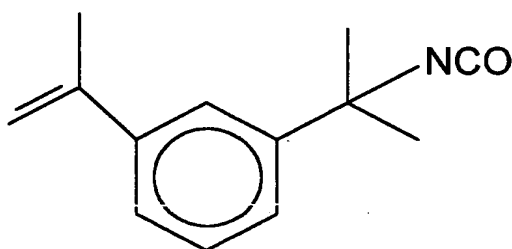
30. The polymeric vehicle of claim 28, wherein the isocyanate compound is a blocked isocyanate compound.

31. The polymeric vehicle of claim 28, wherein the isocyanate compound is an unblocked isocyanate compound.

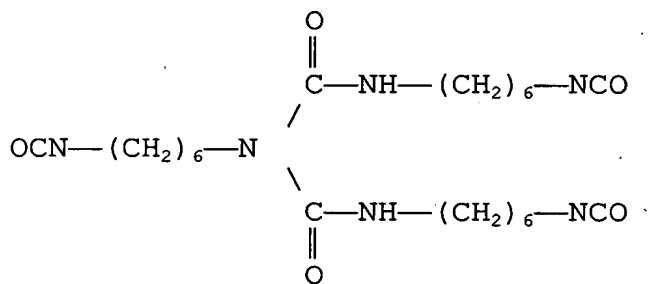
32. The polymeric vehicle of claim 28, wherein the isocyanate compound is selected from the group consisting of hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI), tetramethylxylene diisocyanate (TMXDI), trimethylene diisocyanate, tetramethylene diisocyanate, pentamethylene diisocyanate, 1,2-propylene diisocyanate, 2,3-butylene diisocyanate, 1,3-butylene diisocyanate, 2,4,4-trimethylhexamethylene diisocyanate, 2,2,4-

trimethylhexamethylene diisocyanate; cycloalkylene diisocyanates, 1,4-cyclohexane-diisocyanate 1,3-cyclohexane-diisocyanate, m-phenylene diisocyanate, p-phenylene diisocyanate, 4,4'-diphenyldiisocyanate, 1,5-naphthalene diisocyanate, 4,4'-diphenylmethane diisocyanate, 2,4-toluene diisocyanate, 2,6-toluene diisocyanate, trimerized HDI, trimerize IPDI, triphenylmethane-4,4',4''-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-triisocyanatocyclohexane, 2,4,6-triisocyanatotoluene and  $\omega$ -isocyanatoethyl-2,6-diisocyanatocaproate,

4,4'-diphenyldimethylmethane-2,2',5,5'-tetraisocyanate,



and the biuret of hexamethylene diisocyanate (HDI), said biuret having the structure



A4  
33. A polymeric vehicle comprising an aqueous dispersion of a neutralized polymer in water, a co-solvent, and an isocyanate cross-linking agent comprising an isocyanate compound, which dispersion is substantially free of emulsifiers, wherein the polymeric vehicle is effective for providing a coating binder film, wherein the polymer is selected from the group consisting of condensation polymers, addition polymer and hybrid polymers of condensation and addition polymers, wherein the polymer has an acid value of from about 4 to about 70 prior to neutralization, and a solubility of at least about 50 weight percent in isopropanol or methyl ethyl ketone, and wherein the aqueous dispersion has less than about 2 weight percent organic solvent, at least about 30 weight percent solids, a viscosity of less than about 20 poise at a temperature of about 25°C., and a mean particle size of not more than about 300 nm.

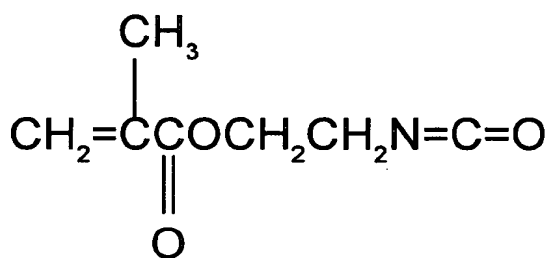
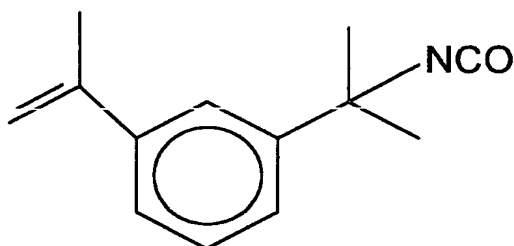
34. The polymeric vehicle of claim 33, wherein isocyanate compound is a polymeric isocyanate compound.

35. The polymeric vehicle of claim 33, wherein the isocyanate compound is a blocked isocyanate compound.

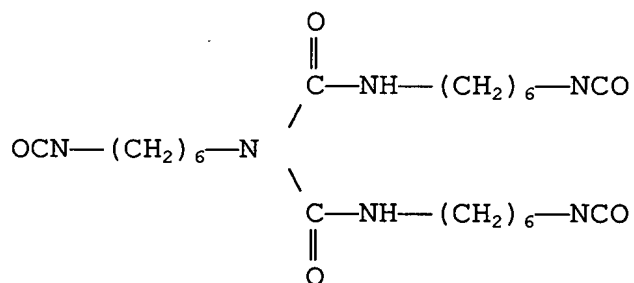
36. The polymeric vehicle of claim 33, wherein the isocyanate compound is an unblocked isocyanate compound.

37. The polymeric vehicle of claim 33, wherein the isocyanate compound is selected from the group consisting of hexamethylene diisocyanate (HDI), isophorone diisocyanate (IPDI), tetramethylxylene diisocyanate (TMXDI), trimethylene diisocyanate, tetramethylene diisocyanate, pentamethylene diisocyanate, 1,2-propylene diisocyanate, 2,3-butylene

diisocyanate, 1,3-butylene diisocyanate, 2,4,4-trimethylhexamethylene diisocyanate, 2,2,4-trimethylhexamethylene diisocyanate; cycloalkylene diisocyanates, 1,4-cyclohexane-diisocyanate 1,3-cyclohexane-diisocyanate, m-phenylene diisocyanate, p-phenylene diisocyanate, 4,4'-diphenyldiisocyanate, 1,5-naphthalene diisocyanate, 4,4'-diphenylmethane diisocyanate, 2,4-toluene diisocyanate, 2,6-toluene diisocyanate, trimerized HDI, trimerize IPDI, triphenylmethane-4,4',4"-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-triisocyanatocyclohexane, 2,4,6-triisocyanatotoluene and  $\omega$ -isocyanatoethyl-2,6-diisocyanatocaproate,  
 A4 4,4'-diphenyldimethylmethane-2,2',5,5'-tetraisocyanate,



and the biuret of hexamethylene diisocyanate (HDI), said biuret having the structure



38. The polymeric vehicle of claim 1, wherein the isocyanate compound is selected from the group consisting of trimerized hexamethylene diisocyanate (HDI), trimerized isophorone diisocyanate (IPDI), triphenylmethane-4,4',4''-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-triisocyanatocyclohexane, 2,4,6-triisocyanatotoluene,  $\omega$ -isocyanatoethyl-2,6-diisocyanatocaproate, 4,4'-diphenyldimethylmethane-2,2',5,5'-tetraisocyanate, and mixtures thereof.

A4  
38. The polymeric vehicle of claim 1, wherein the isocyanate compound is selected from the group consisting of trimerized hexamethylene diisocyanate (HDI), trimerized isophorone diisocyanate (IPDI), triphenylmethane-4,4',4''-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-triisocyanatocyclohexane, 2,4,6-triisocyanatotoluene,  $\omega$ -isocyanatoethyl-2,6-diisocyanatocaproate, 4,4'-diphenyldimethylmethane-2,2',5,5'-tetraisocyanate, and mixtures thereof.

39. The formulated coating composition of claim 6, wherein the isocyanate compound is selected from the group consisting of trimerized hexamethylene diisocyanate (HDI), trimerized isophorone diisocyanate (IPDI), triphenylmethane-4,4',4''-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-triisocyanatocyclohexane, 2,4,6-triisocyanatotoluene,  $\omega$ -isocyanatoethyl-2,6-diisocyanatocaproate, 4,4'-diphenyldimethylmethane-2,2',5,5'-tetraisocyanate, and mixtures thereof.

40. The formulated coating composition of claim 23, wherein the isocyanate compound is selected from the group consisting of trimerized hexamethylene diisocyanate (HDI), trimerized isophorone diisocyanate (IPDI), triphenylmethane-4,4',4''-triisocyanate, 1,3,5-triisocyanatobenzene, 1,3,5-